

SUMMARY AUDIT REPORT

for the August 2016
International Cyanide Management Code Recertification Audit



Prepared for:

Chukotka Mining and Geological Company
Kinross Gold Corporation/ Kupol Project

Submitted to:

International Cyanide Management Institute
1400 I Street, NW, Suite 550
Washington, DC 20005, USA

FINAL

26 April 2017



Ramboll Environ

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SUMMARY AUDIT REPORT

Name of Mine: Kupol Mine

Name of Mine Owner: Kinross Gold Corporation

Name of Mine Operator: CJSC Chukotka Mining and Geological Company

Name of Responsible Manager: Dave Neuburger, General Manager

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Location details and description of operation:

The Kupol Mine is located in a remote north-central area of the Chukotka Autonomous Okrug (AO), Russian Federation. Majority ownership of the mine was acquired by Kinross Gold Corporation (Kinross) in 2008, and has been 100% owned since 2011. The mine is operated by a wholly-owned subsidiary, CJSC Chukotka Mining and Geological Company (CMGC).

The Kupol deposit is presently mined using underground methods. Another underground operation has been developed at Dvoynoye, a site 100 km due north of Kupol. No separate milling or leaching operations are presently undertaken at Dvoynoye, and ore from this operation is being processed in the Kupol mill. In 2015, combined gold production from both mines was 758 563 ounces. The Kupol and Dvoynoye mine locations are shown in **Figure 1**.

Chukotka Autonomous Okrug (AO) is very sparsely populated; the Kupol site is about 75 km from the nearest village (Ilirney) and over 200 km from the nearest major town (Bilibino).

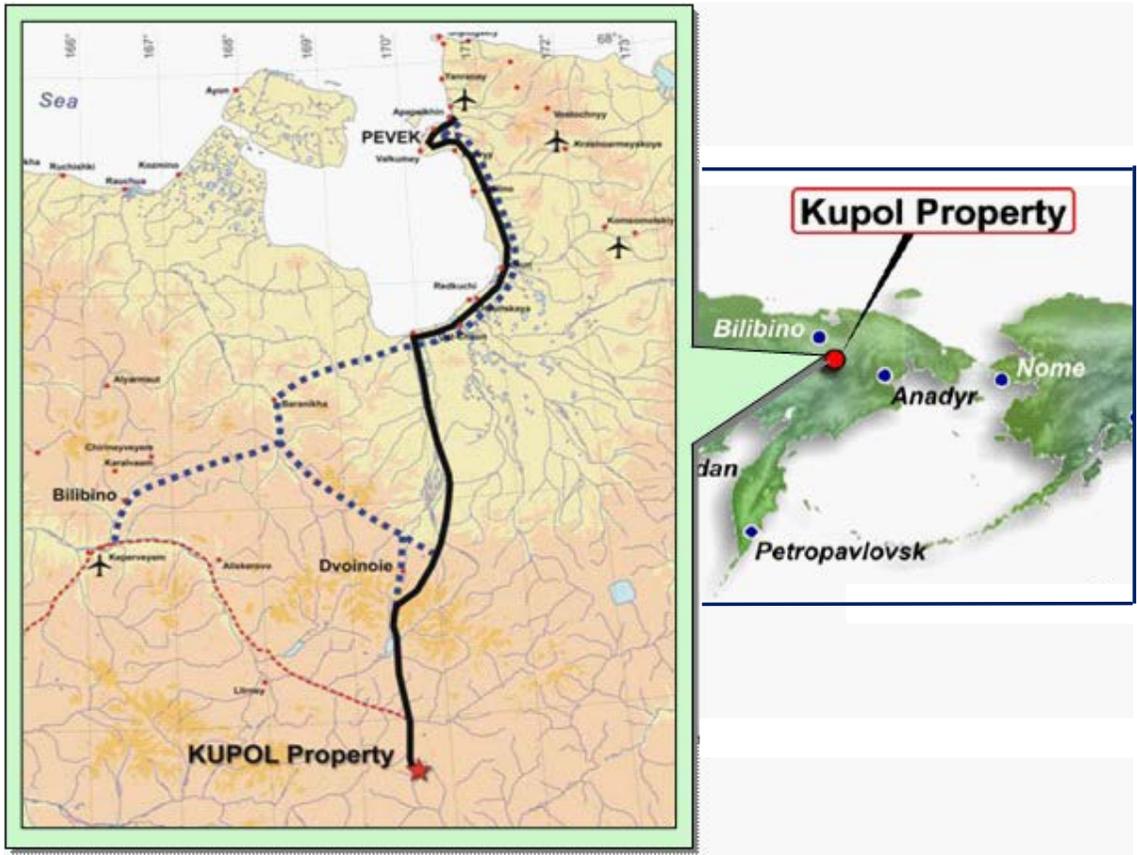
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Figure 1: Location of Kupol Mine and Dvoinoye Mine, Chukotka Autonomous Okrug, Russian Federation¹



CMGC maintains administrative and governmental liaison offices in Magadan, as well as a logistics/public relations presence in Bilibino and the Port of Pevek, 400 km due north of the mine. The climate is harsh, with long cold winters and brief summers. Cyanide, fuel, and other bulk supplies must be delivered by mid-winter truck convoys on an annually constructed ice road connecting the mine to the Port of Pevek. The southernmost 100 km of the ice road route comprises an all-weather road constructed in 2013 beginning at the Dvoinoye Mine, as Dvoinoye ore is delivered to Kupol by haul truck. The Kupol Mine has modern, self-contained man-camps with a total workforce of approximately 700 to 850 persons per rotation. The total area of the mine site inclusive of facilities is approximately 300 ha.

There have been no significant changes to the cyanide transportation, storage, and handling protocols or the basic mineral extraction process since the mine was first certified to the International Cyanide Management Code (ICMC) in December 2009.

¹ Source: Kupol Mine, Russian Federation, NI 43-101 Technical Report (Henderson, May 2011).

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The exception is the addition of a leach tank in 2013, a ConSep Acacia reactor in 2014, and a new cyanide feed system in 2016. The Kupol mill is comprised of a conventional cyanide leach plant, a counter-current decantation (CCD) circuit, a Merrill-Crowe precipitation circuit, an ConSep Acacia leaching reactor, and a hypochlorite-based cyanide detoxification circuit, discharging to an impermeable, zero-discharge rockfill tailings impoundment with seepage collection and reclaim water systems. Construction of a filtration plant is also underway in order to increase the life span of the tailings storage facility.

Cyanide is purchased exclusively in briquette form, packaged in standard polypropylene "supersacks" and polyethylene-lined plywood crates, delivered to the site in sealed steel intermodal shipping containers. Since 2013 CMGC has purchased cyanide from a number of different suppliers in North America, South Korea, Peoples Republic of China and the Russian Federation. CMGC maintains a secure facility 21 km south of the Port of Pevek for storage of cyanide containers and other bulk supplies pending annual ice road construction and delivery to the project site via secure truck convoy.

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Auditors' Finding

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance

with the *International Cyanide Management Code* and has maintained full compliance throughout the previous three-year audit cycle.

Audit Company: **Ramboll Environ**
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Audit Team Leader: Clinton Phaal
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Names and Signatures of Other Auditors

Adrian Juarez



Date(s) of Audit: 29 August 2016 to 4 September 2016

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the *International Cyanide Management Institute* for Code Verification Auditors. I attest that this Detailed Audit Findings Report (DAFR) accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the latest version of the *International Cyanide Management Code Verification Protocol for Gold Mine Operations* and using standard and accepted practices for health, safety and environmental audit.

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1. PRODUCTION Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.

Standard of Practice

1.1 Purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 1.1

Discuss the basis for this Finding/Deficiencies Identified:

Since 2013, CMGC has purchased only from cyanide distributors and suppliers with all chemical manufacturers currently certified to the ICMC at the time of purchase. Changes in suppliers were undertaken for a number of reasons which included the potential disruption to the North American supply chain due to possible sanctions against the Russian Federation in 2014, and disruption to the Chinese supply chain that resulted from the Tianjin Port explosion in 2015. The sequence of cyanide procurement and supply since 2013 is as follows:

- 2013: Contract with Global KG Supplier Canada Inc. (Global KG) as a distributor with cyanide manufactured at Cyanco's Alvin Plant (USA);
- 2014: Contract with EastWest Gold Corporation (EastWest) as the distributor with cyanide manufactured at Cyanco's Alvin Plant (USA);
- 2014: Contract with Hebei Chengxin Co Ltd, Shijiazhuang, PRC (Hebei) to supply a batch of cyanide; 2015: Contract with Closed Joint Stock Company Korund-CN, Russia (Korund);
- 2016: Contract with Samsung C&T Deutschland GmbH, Germany (Samsung) to supply cyanide produced at Tongsoh Petrochemical Corporation, Korea (Tongsoh); and
- 2016: Contract with Hebei Chengxin Co Ltd, Shijiazhuang, PRC (Hebei).

Contracts for 2013 through to 2015 were found not to specifically state that cyanide must be produced at a certified facility. Nevertheless, all cyanide used over this period was confirmed to have been purchased at ICMC certified production facilities. The 2016 contracts with Hebei and Samsung contain specific clauses requiring that

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the full supply chain comprising production, transport route and seaport must be ICMC certified.

2. TRANSPORTATION Protect communities and the environment during cyanide transport.

Standards of Practice

2.1 Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 2.1

Discuss the basis for the Finding/Deficiencies Identified:

CMGC has purchased cyanide from different producers delivered into CMGC’s custody on a free-on-board (FOB) basis, shipped through various Ports to Pevek. The Sakhalin Shipping Company (SASCO) has been used as the ocean carrier of choice since 2013 for shipment of cyanide to the Port of Pevek. In addition to SASCO, Kupol has contractual arrangements with Far Eastern Shipping Company (FESCO) for ocean transport if needed. Both SASCO and FESCO are reported to have ice rated vessels necessary to access the Port of Pevek which is ice locked and only operational for a few months each year. SASCO and FESCO are the only companies currently approved by the Russian Federation to use Russian Ports and manage the customs and excise. CMGC takes possession of the cyanide at the Port of Pevek. CMGC trucks the cyanide to their KM 21 storage facility where it is stored until winter when it is transported to the Kupol Mine along the annually constructed ice-road.

The major elements of the supply chain from 2013 to present are as follows:

Cyanco Production Facility to the Port of Everett (2013/2014)

In 2013, under contractual agreement, Global KG was responsible for shipment of cyanide from the Cyanco Alvin, Texas facility to the Port of Everett under the ICMC certified Kinross Gold Corporation Russian Supply Chain and using Cyanco’s Western US Rail, Barge and Truck Supply Chain. In 2014, Global KG was incorporated into EastWest Gold Corporation and contracted to supply cyanide under the same contractual arrangements as with Global KG.

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Korund Production Facility to Port of Archangelsk (2015)

During 2015, following the possibility of sanctions against Russia and potential supply chain disruption from North America; and the fire at the Port of Tianjin in 2015 which impacted supply from Hebei, China, CMGC contracted with Korund, the only certified supplier in Russia.

Under contractual agreement, Korund was responsible for transporting cyanide from Dzerzhinsk to the Port of Archangelsk on a FOB basis. The transport chain comprised road transport to Kostarikha (Nizny Novgorod), approximately 33 km to the east using a transportation company LLC Avtospectr and rail transport to Solombala. Korund contracted JSC Transcontainer for rail transfer of intermodal containers from Kostarikha Station to Solombala Station near Archangelsk. Korund contracted LLC SMA Northern Maritime Agency to truck the cyanide to Archangelsk Port for direct loading onto vessels by port operated loading facilities.

Although Korund’s transport chain was not ICMC certified, stringent Federal Russian Regulator (Rostransnadzor) requirements are in place for road and rail transport of hazardous materials that require carriers to be licensed.

Korund provided CMGC with evidence of road and rail transporter certifications. The Port of Archangelsk is also not included in an ICMC certified transport chain and has not been the subject of due diligence. Nevertheless, Port operations are required to meet Russian Regulations for loading and offloading and CMGC provided evidence of certification for the Port.

Hebei Production Facility to Port of Qingdao (2014 and 2016)

A cyanide batch was initially obtained from Hebei in 2014. However following the explosion at the Port of Tianjin in 2015, cyanide was subsequently procured from Korund.

Under the 2016 contract, Hebei was responsible for the road shipment of cyanide from their facility in Shijiazhuang City to the Port of Qingdao by road using their ICMI certified transport arm Hebei Chengxin Transport Co. Ltd (Hebei Transport). However, at the time of the shipment, the Port of Qingdao was not included in a certified supply chain. A subsequent independent due diligence assessment report of the Port of Qingdao was completed by an ICMI approved auditor from Golder Associates on behalf of Kinross Gold Corporation, dated 25 January, 2017. The report identified no significant issues of concern relating to management of solid sodium cyanide at the Port. Kinross is in the process of recertifying their Russian Supply Chain (scheduled for completion in March 2017) which will incorporate the Qingdao due diligence report.

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Tongsuh Production Facility to Port of Pusan (2016)

Cyanide was purchased from the Tongsuh facility in Ulsan City under contractual agreement with Samsung for road transport to the Port of Pusan, Korea on a FOB basis using the Samsung ICMC certified supply chain.

Sea Transport from Various Ports to Port of Pevek

Since 2013 CMGC has chartered SASCO to deliver cyanide containers to the Port of Pevek using certified ice capable transport vessels. A due diligence review was conducted of SASCO, FESCO and the Port of Pevek in 2012. This report was updated in 2016 and subsequently reviewed for completeness by an ICMI auditor. Kinross is in the process of recertifying their Russian supply chain (scheduled for completion in March 2017) which will incorporate the above due diligence review.

CMGC has maintained its contract with the Port of Pevek to provide docking and unloading services for both FESCO and SACO vessels. The Port of Pevek has been the subject of a due diligence review conducted by Kinross on behalf of CMGC. The report was updated in 2016 and reviewed by an ICMI auditor.

Port of Pevek to Temporary Storage (KM 21) and Final Storage at Kupol Mine

CMGC arrangements for transport of cyanide from Port of Pevek to Kupol Mine have not changed since 2013 and is undertaken under the CMGC Transportation Group which was ICMC certified in January 2017.

Contractual agreements with all cyanide suppliers and distributors since 2013, place full responsibility with the supplier for the provision of cyanide on a FOB basis to the specific named port (Ports of Everett, Xingang (Tianjin), Archangelsk, Busan and Qingdao). The 2016 contracts with Hebei and Samsung contain specific language requiring that the supplier shall have a fully ICMI certified supply chain including the final seaport destination for delivery. The suppliers are responsible for labelling of cyanide containers and all contracts specifically require that goods will be packaged and marked according to International Maritime Dangerous Goods Codes (IMDGC) and customary packaging standards.

CMGC retained the same tenant agreement with the Port of Everett in 2013/2014 as noted in the 2013 Recertification Audit whereby CMGC rent storage space and makes use of the Port’s handling and stevedoring services. CMGC has also retained the same agreement with Port of Pevek for stevedoring services as noted in the 2013 recertification audit with any handling incidents the responsibility of CMGC with respect to emergency responses and cleanup.

The agreement with SASCO has remained in place together with a chartering agreement for the use of specific ice rated vessels suitable for shipping in Arctic regions. The Port of Everett, Port of Pevek and ocean carriers SASCO and FESCO

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were the subject of a due diligence review completed in 2012 by Kinross on behalf of CMGC and updated in 2016.

In order to ensure that ICMC requirements are met, CMGC prepared an internal standard operating procedure (SOP) to provide instruction to purchasing, procurement and contract preparation departments to conduct detailed certification checks of the complete cyanide chain should a new cyanide supplier be sourced. Subsequent to the audit, the new SOP and training records of staff were provided to the auditor verifying completion.

2.2 Require that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 2.2.

Discuss the basis for the Finding/Deficiencies Identified:

With exception of the circumstances described below, CMGC has used only certified ICMI supply chains for shipment of cyanide from the production plant to the Kupol Mine, to ensure that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.

The 2014 Hebei contract did not specifically set out that transporters must be ICMC certified, however, the full contract was never executed due to the Tianjin fire and explosion disrupting the supply chain. The subsequent 2016 Hebei contract specifically requires that the supplier shall have full ICMI certification for its supply chain including from the transport route to the receiving port.

Due to the likelihood of sanctions and the Tianjin explosion disrupting the North American and Chinese supply routes, CMGC decided to select a Russian supplier to secure a cyanide supply that could be delivered before ice closure of the Pevek Port in 2015. Although Korund was a certified producer, no certified transport route was available from the Korund Plant. The majority of this transport route was by rail with subsequent loading by Archangelsk Port with short trucking sections between the production plant and rail terminal at Kostarikha, and the rail terminal at Solombala and Archangelsk Port. The road and rail transporters and Port are highly regulated by the Russian Federation and aligned with European ARD and RID regulations. These regulations require transporters to have systems in place for safer management of hazardous goods and therefore the risk associated with cyanide transport is considered appropriate.

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The Port of Qingdao used for the supply of cyanide in 2016 by Hebei as an alternate to Port of Tianjin after the Tianjin explosion was not included in a certified transportation chain. However, CMGC and Kinross has taken steps to address this aspect including undertaking a due diligence review of the Port in 2017, the results of which are to be included in the recertified Kinross Russia Supply Chain due to be submitted in March 2017.

CMGC provided evidence to show efforts that were made to minimize the potential disruption of their cyanide supply, caused by the North American sanctions on Russia and the unforeseen 2015 explosion at the Port of Tianjin (both of which were beyond the mine's control); the practicality of resourcing cyanide from a Russian supplier; reestablishment of a fully certified supply chain as soon as reasonably practicable; and actions to readdress supply elements that were not included in a certified supply chain; all of which had to be achieved in a timely manner due to the mine location's adverse climate conditions that limit cyanide delivery to the Port of Pevek to an short summer window. Therefore, because the cyanide supply disruption was due to forces beyond the mine's control, the mine made a good-faith effort to purchase cyanide from other certified producers using a certified supply route, but was unable to do so, and the mine re-established its certified supply in a reasonable period of time. The auditor therefore considers the mine to have remained in full compliance.

3. HANDLING AND STORAGE Protect workers and the environment during cyanide handling and storage.

Standards of Practice

3.1 Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices and quality control and quality assurance procedures, spill prevention and spill containment measures.

The operation is: in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 3.1.

Discuss the basis for this Finding/Deficiencies Identified:

The facilities have not changed significantly since the 2013 recertification audit. The Russian Regulations consider cyanide unloading, mixing and storage areas as hazardous industrial facilities, subject to EHS oversight, which is conducted by the government agency "Rostekhnadzor (RTN)". RTN require the preparation and retention of construction certification packages for all components of facilities

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handling cyanide, referred to as a "Passport". Each Passport describes the component being certified, along with its specifications and technical requirements. The passport for the cyanide mixing and storage tanks, hoppers, the cabinet for bag rinsing, and the external storage compound (**ESC**) was observed and the documentation is kept in archives.

The unloading and storage area for solid sodium cyanide, which arrives at the mine in sealed intermodal containers, has not changed since the 2013 recertification audit. The external storage compound is a guarded and fenced unroofed yard, located approximately 3 km north of the mill, and approximately 3 km from the permanent main camp. The nearest town (Ilirney) is located 75 km away from the mine. The external storage compound comprises adequate ventilation, impermeable flooring with suitable drainage, fencing with access controlled entrances and is managed to ensure that incompatible materials remain separate.

The compound is a rectangular pad, covered with gravel placed on the top of a HDPE layer, with lined water capture ditches on all four sides of the pad. Any rainfall onto the pad would be directed towards and captured in the ditches, and will flow to a buried steel tank. The tank is inspected during every shift by security personnel to measure water level. If the level at the tank reaches one meter below the top, the environmental department is notified; and cyanide concentrations are measured. If cyanide is confirmed as present, the Emergency Response Plan will be activated and the liquid will be removed for disposal to the tailings facility.

The unloading and storage area is fenced and has a permanent guard who inspects the perimeter of the fence, locks and the water level on the buried tank. A two tower system is in place to assist with the surveillance of the yard and it is equipped with a lighting system. The containers are stacked to a maximum of a two-layer height in accordance with internal regulation No. 32 (May 17, 2016), allowing good visibility from the towers.

The facility where the mixing and storage tanks are located has not changed since the 2013 recertification audit. The tanks are housed inside of concrete secondary containment (**SC**) on concrete surfacing, all inside a fully contained room. Repairs completed on areas of concrete cracks were observed and concrete surfaced areas were noted to be in good condition. The SC has a sump equipped with a pump to return any spills into the mix tanks. The mixing and storage tanks are equipped with level indicators and high level alarms which are monitored from the control room.

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3.2 Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 3.2.

Discuss the basis for this Finding/Deficiencies Identified:

CMGC operate using a number of documents and procedures to prevent exposure and release during cyanide unloading and mixing activities. The following guides have been developed and implemented to prevent exposures and releases during cyanide unloading and mixing:

- Operation of valves and couplings of mixing systems,
- Handling of intermodal containers,
- Limiting stacking heights of intermodal containers and plywood boxes at the ESC,
- Clean up of spillages, and
- The safe mixing of solid cyanide.

The unloading and storage area is fenced and has a permanent guard who inspects the perimeter of the fence, locks and the water level on the buried tank. A 2-tower system is in place to assist with the surveillance of the yard and it is equipped with a lighting system. The containers are stacked to a maximum of a two-layer height in accordance with internal regulation No. 32 (May 17, 2016), allowing good visibility from the towers.

Upon receipt, the external storage compound authorized personnel conduct inspections of the sealed intermodal containers to ensure the integrity and soundness of seals. From the storage yard, the containers are moved separately to the mill complex and are placed in front of the fully contained cyanide mixing and storage room, located inside of the reagent building. The container is then opened and the plywood crates moved into the mixing room by forklift and are stacked no more than two crates high prior to being opened and cyanide bags added to the mixing hopper. The forklift operator is equipped with personal protective equipment (PPE).

During the audit, a cyanide mix event was observed and the personnel were observed to follow the procedure carefully. There are always two individuals present during the mixing event and the process is also observed from the control room.

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Following emptying of sodium cyanide into the mix hopper, empty cyanide supersacks are washed in a dedicated steel tank equipped with a rotating spray head and an exhaust vent. The steel tank is located inside of SC for the mixing and storage tank. The SC has a sump and a pump and any spilled liquid would be pumped back into the mixing tank.

Site procedures for cyanide container disposal requires that packaging material (plywood boxes and empty bags/ supersacks) are segregated and transported separately from any other waste material to the burn pit. The waste is transferred to a dedicated burn area located close to the TSF, saturated with flammable liquid and burned. Personnel are instructed that no unburned fragments of the packaging material remain and are prohibited from using the packaging material for any other purposes. The burn pit has signage posted alerting of the hazardous area, and no remains of unburnt material were observed.

4. OPERATIONS Manage cyanide process solutions and waste streams to protect human health and the environment.

Standards of Practice

4.1 Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.1.

Discuss the basis for the Finding/Deficiencies Identified:

Since 2013, the extraction processes have remained essentially the same. Some modifications have been made including the addition of an Acacia Reactor for leaching of gravity concentrates in 2014; in 2013 leach tank # 6 was commissioned to increase the leaching capacity and leaching time; and in 2016 a cyanide feed system was added on top of leach tank #1. During the period of the audit, a filtration plant was being constructed and is expected to be commissioned by the end of 2016. As such, the plant was not yet operational and was excluded from the audit.

Cyanide facilities currently include:

- The external storage compound (**ESC**) for intermodal containers of solid cyanide,
- Cyanide mixing and storage circuit,
- ConSep Acacia CS 4000 system,

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- Leach circuit with 6 leach tanks,
- Counter current decantation (**CCD**) circuit,
- Merrill-Crowe circuit (4 clarifier filters, 3 press filters and tower),
- A Hypochlorite-based cyanide destruction system,
- The tailings storage facility (**TSF**),
- Tailings delivery, distribution, and reclaim water pipelines, reclaim barge and booster station,
- Surface water diversion channels, up gradient of the TSF, and
- Burn pit for destruction of sodium cyanide (NaCN) packaging.

CMGC continue to operate a detailed suite of written management and operating plans, manuals, procedures and instructions for the management of cyanide facilities. In addition to operating manuals and plans, certain work instructions are specifically prepared to meet with requirements of Russian Regulations and provide detailed procedures for cyanide specific tasks. These address specific training requirements, PPE, task specific safety requirements, pre-work checks, appropriate emergency responses, first aid and task completion requirements. These management documents, procedures, training requirements and work instructions are reviewed and updated regularly to incorporate any operational changes.

The design assumptions and parameters for the TSF are included in the tailings management facility design documentation. This report provides operating parameters which include the minimum of 1.5 m of freeboard to accommodate 1.0 m for probable maximum flood event, plus 0.5 m for waves above that level, and the design assumptions regarding the total CN concentration of the slurry discharging into the TSF is regulated to a threshold of 5 mg/L, and 10 mg/L for total thiocyanate. The documentation also summarizes criteria for the embankment dam, crest, slopes, shore abutments, TSF capacity, water collection sump, water diversion ditches, pipelines, and reclaim water pump station.

CMGC's inspection program has remained essentially unchanged since 2013 and is regulated by several procedures. Daily inspections of the sodium cyanide mixing, leaching, CN destruction, CCD, Merrill-Crowe and mill reclaim water circuits, as well as associated equipment and process pipelines are undertaken for malfunctions, defects, leaks of equipment, pipes, pumps, tanks, SC, safety showers and eyewash stations. Inspection of containers in the NaCN storage yard intended to identify any potential NaCN spills are completed every time the yard is unlocked by the Yard Superintendent every 10 days and the Procurement Manager once per month. The TSF is visually inspected at least weekly for unusual cracks, bulging, settling, seepage and erosion on the tailings dam which must be completed using a checklist. Furthermore, the design report requires that, on an annual basis, a geotechnical engineer conduct a visual inspection and a formal dam safety review every 5 years.

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The preventive maintenance (**PM**) system implemented by CMGC is managed using JD Edwards automated software. The system is designed to document specific planned PM actions for critical equipment as well as unplanned actions and the tracking of associated work orders. The system also contains an archiving function that permits the generation of PM history on specific equipment items.

CMGC procedure H&S-MOC-01 Management of Change (**MOC**), dated August 2014, establishes criteria for conducting changes in a healthy, safe and environmentally correct manner. This procedure is applicable to all process and engineering changes, including creation, modification or substitution of facilities, equipment, and processes from the existing approved design. The procedure requires the evaluation of technical, operational, safety, environmental, quality and economical aspects of a proposed change to prevent hasty or unconsidered changes from being implemented. With regards to the MOC procedure; if the expenditure exceeds US\$ 50,000, CMGC require approval from Kinross Gold Corporation corporate office which is known as "Authorization for Expenditures" or AFE and comprises a general financial review. To comply with the Russian regulations, CMGC need also to fulfill the requirements of RTN.

Kinross Corporate Responsibility Management System includes a "Project Review Checklist for International Cyanide Code Compliance". The checklist is to ensure that all ICMC requirements are identified, considered, planned for and addressed early in the project planning and project development cycle, and when any facility or operating process change is planned, which may impact management of cyanide or cyanide solution. This corporate standard came into effect in 2009 and is still current.

CMGC implemented three significant changes at the operation for which MOC or AFE processes were followed:

- ConSep Acacia CS-4000 system: This change provides a high efficiency leaching system, designed to maximize the recovery from the high grade concentrates produced by Knelson Concentrators. The change was requested on March 2013 and was completed by November 2013.
- CN feeding system on top of leach tank #1: The system consists of a sealed NaCN day tank with the capacity to supply for 8 hours of operation. This change occurred in February 2016.
- Leach Tank #6: The change consisted of construction and installation of the tank, pumps, piping and all necessary mechanical and electrical installations. The change was required to increase the recovery of gold and silver and to handle the increase in ore tonnage received from the Dvoynoye Mine, from 3,500 to 4,500 tons per day, and the decrease in the retention time from 120

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hour as designed for 3,000 ton/day to 110 hours. This change was completed in December 2013.

In order to ensure that cyanide process solutions and waste streams are managed in order to protect human health and the environment, CMGC prepares periodic assessments/reviews of the water balance and water management plan, and updates contingency actions to be implemented for the most likely upsets, including closure.

Reviews conducted during the audited period identified that the most likely upset in the water balance would be a positive balance arising from an increase in water inflow into the TSF. This would result in a reduction of available volume for tailings and a decrease in the available volume during extreme precipitation events. The main reason for defining this potential upset was due to an update on the average annual precipitation estimated as 453 mm, from previous value of 240 mm, as well a change in the extreme precipitation values. Based on these assessments, CMGC defined several contingency measures, such as:

- a) Upgrading of the TSF diversion channels to increase their capture efficiency;
- b) Change in tailings treatment to include a cake plant and dry storage to increase the life of the TSF;
- c) Design of an emergency spillway to protect the dam for extreme conditions;
- d) Assess the treatment and discharge of water from the TSF; and
- e) Treat water from the ARD (Acid Rock Drainage) sump and discharge to the environment.

These actions have resulted in an extension of the TSF from 2017 to end 2021.

Procedures require daily inspections of sodium cyanide mixing and destruction circuits, as well as associated equipment and process pipelines during every shift for malfunctions/defects of equipment, including SC that may pose a hazard to employee's health or to the environment. Examples of inspection records were reviewed for the last three years. During the audit, corrosion, missing bolts from a flange and cyanide salts on a valve were noted at the base of the leaching tanks. All these defects were corrected during the audit with photographic evidence provided, the inspection checklist was expanded to include these specific aspects, and responsible staff were re-trained in the use of the updated checklist.

CMGC mine inspects the following at unloading, storage, mixing and process areas: Structural integrity and signs of corrosion and leakage, including annual structural integrity tests; secondary containment inspections to check for damage, adequacy of containment volume and that drains are closed; inspection of pipes, pumps and valves; and inspections of ponds and impoundments including TSF pond elevations twice monthly. Inspection forms and checklists include space for the inspection date, inspector's name and signature, and description of deficiencies. The deficiencies

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identified through inspections require corrective maintenance actions which are subsequently recorded by the J.D. Edward's work orders system. Examples of inspection records where deficiencies were found, and their corrective actions were reviewed for the audit period. Security inspections at the cyanide storage yard are recorded in a logbook, and weekly environmental inspections are record in an environmental monitoring database.

Electrical power is required to ensure that cyanide process solutions and waste streams are managed in an adequate manner. Power generation conditions are identical to those observed in the 2013 audit. CMGC generates its own power using diesel generators located at the mill. The emergency generators are only used in the event of a complete failure of the main powerhouse supply. Additional mobile (containerized) generator sets are available for emergency use. Maintenance logs are retained for all generators and the emergency generators are tested weekly. PM is performed on all generators based on hours of operation and is managed and via the JD Edwards system.

4.2 Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.2.

Discuss the basis for this Finding/Deficiencies Identified:

CMGC's operational principle is to maximize gold and silver recovery, and to detoxify the mill tailings to levels of approximately 0.002 ppm total cyanide and levels of approximately 0.5 ppm WAD Cyanide. The cyanide levels of reclaim water at the TSF show similar values for the whole audited period. This approach complies with the ICMC code, by limiting the cyanide concentrations at the mill tailings. Cyanide levels of the mill tailings after leaving the CCD tank ranges from 400 to 500 ppm during the audited period with values remaining steady. The operation records all daily data in a spreadsheet, covering every stage of the process. The concentrations are measured every two hours with titration tests used to optimize addition rates.

The operational principles comply with the Code; the detoxification system reduces the cyanide concentrations on the tails substantially. Because of the infrequent delivery of cyanide to the mine (only shipped in the summer months) and limited stocks, the addition of sodium cyanide into the process is carefully controlled.

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4.3 Implement a comprehensive water management program to protect against unintentional releases.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.3.

Discuss the basis for the Finding/Deficiencies Identified:

As reported in the 2013 audit, CMGC makes use of a comprehensive, probabilistic water balance model developed by AMEC. CMGC updated the water balance model in 2016, by revising the hydrological parameters such as average precipitation, extreme precipitation, evaporation, runoff coefficient and probable maximum precipitation. The main change in the water balance model relates to hydrological inputs, a significant increase in estimated precipitation values and a reduction in the runoff coefficients.

This updated water balance model is designed to perform a continuous simulation of water flow through the system using a monthly time step. The following is considered for the water balance model: tailings rate flowing into the TSF that considers the solid content of slurry water entering the TSF; a design storm based on rainfall data collected from Kupol’s meteorological station and supplemented with data from a regional meteorological station located in Ilirney to calculate probable Maximum Flows (PMF); precipitation entering the TSF, including runoff from areas upstream of the TSF; the effects of freezing and thawing; and the effect of seepage and runoff from the external face of the dam which is collected in a pond and pumped back into the TSF.

Kupol Mine operates entirely from onsite power generators and is not connected to any electrical grid. The mine has several emergency power generators available for the normal operation. If a power outage occurs, the mill will stop immediately, and shortly thereafter, the tailings slurry will cease flowing into the TSF.

Since the TSF is designed as a zero discharge facility the water balance model does not incorporate discharges from the TSF into the environment.

CMGC is in the process of commissioning a filtration plant to maximize the use of the TSF, by reducing the volume of tailings inflow. This new element is included in the updated water balance. The model also includes the flow from the ARD sump which previously reported to the TSF. However this has subsequently changed since the middle of 2016, after CMGC obtained permits to discharge a specific volume to the environment.

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The TSF has sufficient volume to store tailings and process solution. The updated prediction is that there is a positive water balance with increasing water inflow into the TSF and the maximum capacity will be reached by 2021.

CMGC in 2015 retain AMEC to conduct a hydrology update on the water balance design assumptions and forecast the TSF capacity under different hydrological scenarios. The review resulted in an updated average annual precipitation increase of 240 mm to 453 mm, confirmed the evaporation value of 280 mm, and recommended changes in the monitoring program and in water management practices. This resulted in:

- Upgraded TSF diversion channels to increase the capture efficiency of the channels;
- Change in tailings storage to a dry storage thereby increasing the life of the TSF;
- Design of an emergency spillway to protect the dam under extreme conditions;
- Review of the potential discharge to the environment of free water available in the TSF, after treatment; and
- Discharge of treated water from the ARD sump into the environment.

The current levels at the TSF show a freeboard of 4.7 m based on an inspection report issued by AMEC in September 2016. The 2016 water balance and water management update report estimated the revised freeboard to 2.7 m. Therefore the available volume in the TSF is sufficient to retain the required freeboard level. The previous minimum freeboard was 1.5 m. The change in the freeboard from 1.5 to 2.7 m was due to the average precipitation which has increased from 240 to 453 mm.

Weekly inspections of the TSF are conducted by internal personnel and annual inspections are conducted by AMEC. Inspection reports that were prepared by AMEC in 2015 and 2016 were reviewed, which include a recommendation to estimate seepage volumes and record daily water volumes returned to the TSF pond which has already been implemented by CMGC. Other recommendations relating to conducting surveys of the diversion channels which is also currently underway and, when completed, will improve the accuracy of water balance calculations.

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4.4 Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.4.

Discuss the basis for the Finding/Deficiencies Identified:

Kupol Mine does not have leach pads or ponds except for the impoundment of the TSF. The tailings slurry is treated with a calcium hypochlorite based detoxification process. The WAD cyanide measured at the TSF pond did not exceed 0.5 mg/L, and 0.002 mg/L total cyanide during the period since the previous recertification audit.

The weekly inspections at the TSF include a record of observations of wildlife mortality. There were no recorded cyanide related wildlife mortalities noted during the audited period.

4.5 Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.5.

Discuss the basis for the Finding/Deficiencies Identified:

Kupol Mine was designed and has operated as a zero-discharge facility. The treated tailing slurry flows into the TSF impoundment with total cyanide at 0.002 ppm, and the reclaim water is pumped back to the mill. The available volume at the TSF has been sufficient to accommodate the tailings slurry and any extreme storm event, retaining the minimum required freeboard available.

The TSF was designed so that there will be minimal seepage through the dam and foundations. Permafrost beneath the dam acts as a primary seepage barrier. Additionally the dam is lined with bituminous liner also serving as a seepage barrier. Seepage from the tailings dam and runoff from the tailings dam face, is collected at the dam seepage pond and pumped back into the dam.

Kupol Mine conducts monthly surface water quality sampling at two locations downstream of the TSF dam during the summer months (June, July, August and September) for total cyanide and thiocyanates. The method detection limit (**MDL**) for both total cyanide and thiocyanates is 0.05 mg/L and all data (2013 through 2016) shows readings below the MDL.

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4.6 Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.6.

Discuss the basis for the Finding/Deficiencies Identified:

Containment measures have remained largely unchanged since the 2013 audit. All major cyanide handling facilities located upstream of the tailings facility are located within the mill building or in storage areas with secondary containment. The TSF was designed so that there will be minimal seepage through the dam and foundations. Beneath the dam, the permafrost is the primary seepage barrier, additionally the dam is lined with a bituminous liner. Seepage from the tailings dam, and the runoff from the tailings dam face, is collected at the dam seepage pond and pumped back into the dam. The most recent TSF inspection report reviewed (AMEC, September 2016) noted that there was seepage at the toe of the dam and presented some recommendations to improve the operation of the flow weir.

Tailings and reclaim water pipelines are constructed of HDPE material and are located above ground to facilitate regular inspections for potential leaks. The tailings booster pumps are also located inside a small building with concrete containment, up gradient of the TSF.

Samples collected at the end of the summer months, at four groundwater monitoring wells (**MW**) located down gradient of the TSF, show readings of cyanide below the MDL of 0.05 mg/L. The MWs cannot be sampled during the rest of the year due to freezing conditions and absence of free water, however are inspected every week. Monthly samples collected through the audited period at Kupol's water well, located approximately 3 km south of the TSF, recorded readings for total cyanide below the MDL of 0.05 mg/L until April 2015 and below the MDL of 0.01 mg/L thereafter. The monitoring program was modified at the request of the auditor, that the laboratory, as routine, always report a MDL of 0.01 mg/L. The reporting MDL of 0.01 mg/L allows comparison with the Russian Regulation for total cyanide of 0.035 mg/L for drinking water.

There is no evidence of cyanide concentrations in ground water rising above levels protective of beneficial use.

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4.7 Provide spill prevention or containment measures for process tanks and pipelines.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.7.

Discuss the basis for the Finding/Deficiencies Identified:

The Kupol Mine uses solid sodium cyanide which is transported to the mine in intermodal containers and temporarily stored in an external storage compound. The compound comprises a gravel pad on top of the geomembrane, and surrounded on all sides by lined cutoff trenches to collect any runoff.

All tanks of these circuits are located over concrete surfaces, and all tanks have concrete secondary containment (**SC**). All containment areas have collection sumps and pumps to return any collected liquids. Containment surfacing has been designed to slope towards sumps.

The arrangement of tanks and SC at the mixing and storage has remained unchanged since the 2013 Audit.

The refinery arrangement has changed since the 2013 audit. CMGC has since installed a ConSep Acacia CS 4000 system. The volume associated with this batch system is approximately 6.4 m³. The refinery has a solid concrete floor with a surrounding concrete wall and slopes toward a sump fitted with pumps to return any barren solution from the press filters to the circuit. Therefore the SC capacity available at the refinery is sufficient to contain any potential spill from the Acacia CS 4000 system.

The arrangement at the **CCD** circuit remains located in the same section of the building as noted in the 2013 audit with SC remaining unchanged.

The arrangement at the leach circuit includes an additional leach tank. The SC for the leach area overflows to the grinding thickener area and to the cyanide destruction area thereby providing additional containment capacity. The total SC volume of (5,765 m³) exceeds the volume of the largest tank (4,867 m³) by approximately 18%.

The arrangement of the reclaim water tank has not change since the 2013 audit with SC provided by interconnection of the north and south grinding bays, the mill building floor, and the refinery area floor. The SC capacity is equivalent to 127 % of the reclaim tank volume.

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There has been no substantive change to the process solution pipelines layout and tailings pipelines and reclaim water pipeline since 2013 audit. All cyanide process pipelines located inside the mill building are above concrete surfacing and are inspected daily, thereby preventing any releases to the environment.

The pipelines for tailings delivery to the TSF and reclaim water are located above ground, along the road from the mill to the TSF. There are three HDPE tailings pipelines with one serving as a backup. Two HDPE reclaim water pipelines are installed which are connected to a booster pump station, and the pipelines are heat-traced to prevent freezing.

As noted in the 2013 audit, based on the pipeline locations, natural topography, and diversion or catchment basin placement, it is unlikely that any release from the tailings or reclaim pipelines could reach surface water.

All tanks were constructed using steel and the tailings and reclaim water pipelines made of HDPE. These materials are appropriate for cyanide and high pH solutions. All cyanide mixing, storage and process tanks (including the new leach tank, Merrill-Crowe thickener, and welded covers for major tanks observed during this audit) are all made of steel.

Procedures to manage and prevent discharges of cyanide solutions are in place that include runoff checks from the ESC, inspection of the ESC runoff capture tank, and daily inspections of all cyanide related circuits including the condition of secondary containment and capture drains. All SC has sumps and pumps to return any spill to the process. Furthermore, the SC does not have any drains that would result in discharge from the facility.

4.8 Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.8.

Describe the basis for the Finding/Deficiencies Identified:

CMGC retains all Quality Assurance and Quality Control (QA/QC) records on file including as-built drawings and commissioning packages for modifications of existing, or construction of new cyanide facilities. These commissioning packages vary in content depending on the type of unit implemented, and type of construction method used.

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Russian Regulations require that all industrial facilities classified as "hazardous" (including mines and mineral processing facilities) be constructed according to stipulated design. RTN oversee the process to ensure that these facilities are constructed according to design standards and technical specifications and, prior to commissioning, requires documentation certifying that all components of construction were completed according to appropriate design and specifications. This documentation is produced for major facility components and typically includes a "Passport" and one or several supporting "Acts." The Passport document provides a description of the facility component and its technical specifications. The Act is the certification for each work component associated with the facility covered by the Passport.

The new facilities and modifications of existing facilities for the audited period are:

- ConSep Acacia CS 4000, patented equipment: installed as a consolidated unit on the floor of the refinery without any requirements for specially designed foundations.
- Leach tank #6: built in place at the site, requiring foundations and welding.
- CN feed system: Installed on top of the Leach tank #1 and constructed of steel.

The commissioning packages for the above facilities contained documents signed by a responsible person and an approver. These typically included the engineer and/or surveyor; and CMGC's representatives such as the Mine General Manager, Deputy General Director, Mill Manager or his deputy, Support Service Superintendent and the Construction Engineer. These documents describe the overall design, modifications during construction, earthworks, field and laboratory test results, and description of QA/QC procedures and results. The package provides as-built drawings, and formal written confirmations that construction was completed in accordance with the specified design.

4.9 Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 4.9.

Describe the basis for the Finding/Deficiencies Identified:

CMGC has developed and implemented written monitoring programs for the Kupol Mine, updated in 2016, and cover a range of aspects including air quality impacts;

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water quality impacts; residues; diversity and productivity of aquatic life; diversity and abundance of terrestrial life; and soil impacts.

Water monitoring and sampling frequency remains unchanged from the 2013 audit which is monthly for surface water. The frequency for groundwater monitoring wells is weekly, and monthly for the south well. Water from the steel tank receiving runoff from the external cyanide storage compound is sampled during spring and summer and prior to any discharge. Other water sampling points such as the pump back sump at the top of the TSF embankment are also sampled monthly. In the auditor's opinion, the sampling frequency is considered adequate for characterization of the medium and to identify any changes. Data collected during the audited period illustrated all readings to be below the MDL.

The monitoring program for water quality includes a template for collecting field data and parameters, mapped locations of sampling stations, specifies sampling techniques, containers, sample volumes necessary for cyanide and thiocyanates analyses and monitoring/sampling frequency. The monitoring program was prepared following the government standard GOST R 51592-2000 "Water, General Requirements for Sampling", that provides sampling procedures and analytical methods.

Monitoring data for the audited period recorded all total cyanide values below the method detection limit (MDL) of 0.002 mg/L, and 0.035 mg/L as regulatory limit for drinking water.

Weekly inspections are conducted at the TSF and external cyanide storage compound and include requirements for observations of wildlife and any wildlife mortalities. There have been no cyanide-related mortalities for the audited period.

5. DECOMMISSIONING Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

Standards of Practice

5.1 Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of 5.1.

Describe the basis for the Finding/Deficiencies Identified:

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CMGC has developed a "Life of Mine (LOM) Reclamation and Closure Plan for the Kupol Project, 2015" which is an updated version of the original plan prepared in 2008. The plan includes a reclamation strategy for the cyanide-related facilities such as the tailings storage facility, dry stack tailings storage facility (currently under construction), the mill and ancillary structures.

The "Life of Mine Reclamation and Closure Plan for the Kupol Project, 2015" describes decommissioning activities in a logical sequence, presents the order in which planned actions will be conducted and a preliminary schedule. This general logical sequence is presented in the 2015 KDL (Kinross Decommissioning Liability) estimate spreadsheets for the period of 2021 to 2030.

Liquidation of these facilities must, in general, provide for the safety of the public from unstable ground or other dangerous conditions, and prevent release of toxic or hazardous materials to the environment. As required by Russian Regulations, upon mine closure, the following steps must be carried out: Appoint a commission to oversee liquidation; compile economic calculations that confirm the decision to close the mine; define a technical scope of work to prepare specific documentation of the liquidation plan; commission an appropriately licensed engineering firm to develop the liquidation plan documentation as per the approved scope of work; obtain positive expert conclusions for industrial safety, environment, and mine safety; conduct the work under the supervision of persons certified for supervision of hazardous industrial facilities; upon completion of the work, document the volume and effectiveness of the activities to be prepared by a commission; and submit documentation to remove the closed facility from the register of hazardous industrial facilities.

CMGC has been updating the Life of Mine Reclamation and Closure Plan for the Kupol Project annually since 2008. The 2015 version of this plan, has a tracking table of the previous updates.

5.2 Establish an assurance mechanism capable of fully funding cyanide-related decommissioning activities.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 5.2.

Describe the basis for this Finding/Deficiencies Identified:

CMGC has prepared annual "Kinross Decommissioning Liability" (KDL) estimates for the Kupol Mine. Corporate guidance requires the use of third-party closure costs as the basis for the estimate. These annual estimates are required over the life of the mine, or more often in response to major facility or operational changes or cost

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increases/decreases. The KDL estimates include a cost allocation for the cyanide storage area, mill, man camp, tailings earthworks, monitoring, and tailings water treatment.

CMGC reviews and updates the cost estimate every year. Every annual update of the Life of Mine Reclamation and Closure Plan for the Kupol Project includes the expected changes or modifications approved by CMGC for implementation.

Kinross's corporate "Internal Code for Self-Insurance of Decommissioning and Closure Liabilities, 2012" provides guidelines for financial self-assurance mechanisms. This internal corporate-level code is designed specifically to address this ICMC requirement in countries such as the Russia Federation that do not impose specific financial assurance requirements.

Financial assurance costs are based on the current KDL estimate spreadsheet, and adjusted for the guidance provided in the ICMC, which specifically excludes physical stabilization, revegetation, long-term seepage management, and environmental monitoring. Kinross's available financial resources are adequate to implement the cyanide management elements of the current CMGC closure plan.

Kinross's internal code also requires verification through an annual audit of the calculations resulting in the financial assurance figure by an independent financial auditor in accordance with current Canadian Chartered Accountancy Standards (i.e., Section 9100 of the Canadian Institute of Chartered Accountants Handbook). Review of reports issued by KPMG LLP (Toronto) indicates that such independent audits were satisfactorily completed in 2013, 2014, and 2015. These reports confirm that the method used for calculating financial assurance reserves was determined to be acceptable.

6. WORKER SAFETY Protect workers' health and safety from exposure to cyanide.

Standards of Practice

6.1 Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 6.1.

Describe the basis for the Finding/Deficiencies Identified:

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Detailed written procedures, plans and instructions are maintained for operation of cyanide facilities and are available at the mine. As noted in the 2013 audit, these manuals were developed prior to the 2009 recertification audit and formed the basis for CMGC's operator training program. Modules covered include general requirements for specific tasks, worker safety, safety checks, permitting requirements, use of specific tools and equipment, risk assessment procedures and emergency responses. Some instructions and task descriptions also contain specific provisions related cyanide awareness, use of cyanide specific PPE, responses to cyanide related emergencies and use of cyanide antidotes.

The contents of instructions are specified by the Russian Regulator as required for hazardous facilities and include requirements for task training, use of PPE, pre-work checks, emergency response, safety measures specific to work tasks, first aid and task completion requirements. CMGC continue to review and update these instructions to incorporate operational changes reflected in the higher tier regulations and training manuals.

CMGC has mandatory workplace requirements for employees and contractors working at Kupol Plant. These include the use of safety glasses, hard hat, safety footwear, reflective and high visibility clothing at all areas of the Kupol Mine site apart from designated "green areas" such as administrative offices and the camp area. Use of additional PPE is required in work areas where there are potential risks from cyanide exposure, such as respirators, chemical suites or coveralls and rubber gloves.

Work instructions require that pre-work checks are completed prior to undertaking tasks including cyanide related tasks. Additionally, work permits are required for certain tasks involving process equipment that contain hazardous materials, where there is potential for generation of toxic gases, or there are potential ventilation risks.

CMGC continue to operate the 5-Point Safety Program introduced in 2009 which requires completion of a checklist and questions regarding workplace conditions to assist workers to conduct workplace safety assessments.

There have been no substantive changes to the CMGC's Management of Change Procedure although the procedure has been most recently reviewed and updated in 2014 and reflects the most recent Kinross Corporate Responsibility Management System (CRMS) requirements. The Kinross's CRMS requires that all infrastructure involving cyanide be designed and constructed in compliance with ICMC requirements, and that location-specific project aspects be evaluated in terms of hazard identification, hazard mitigation, potential occupational health and safety exposures, and other criteria.

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Under Russian Regulations, mining operations are defined as being fundamentally hazardous and any significant facility changes require advance review and approval by RTN. Additionally, the AFE processes for CMGC require that RTN approvals must be obtained prior final approval of the specific AFE process.

CMGC operate under a duty of care towards employees and integral to this process is soliciting and obtaining worker feedback through a variety of mechanisms. These include encouraging feedback and submission of recommendations during safety meetings, use of the 5-Point Safety System and accessibility to an online risk terminal reporting system. Each department holds weekly safety meetings during which safety topics are presented, reviewed and discussed.

CMGC has implemented a Risk Reduction Program which is managed through an online system whereby identified risks and mitigating actions are captured and tracked to completion. CMGC has also introduced electronic kiosks located at key areas in the plant, camp and administration office through which employees can report hazardous conditions, unsafe practices or safety concerns (anonymously if desired).

6.2 Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 6.2.

Describe the basis for the Finding/Deficiencies Identified:

The procedure to maintain appropriate pH remains essentially the same as noted in the 2013 recertification audit. CMGC maintain the leach circuit between pH 10.5 and pH 11 to prevent the formation of HCN gas and optimize the efficiency of the process. The pH level is monitored throughout the process with pH meters installed in the leach tanks set to trigger lime addition should there be a decrease of conditions to below pH 11.4. Manual sampling of leach tanks is also undertaken twice per shift (four times daily) to determine pH and cyanide levels. The results are logged on the Leach Operator Report Sheet and the Control Room Operator Log Book.

During cyanide mixing, barren solution entering the mix tank is maintained between pH 11.3 and pH 12. The Control Room Operator will not allow the mix to commence unless these minimum conditions are met. A pH meter installed in the mix tank also allows adjustment of pH as necessary during the mix procedure.

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Cyanide awareness training provided to employees and mill operators includes modules that explain the importance of maintaining pH at the appropriate levels to prevent HCN gas evolution.

CMGC has 12 Sperian Toxipro personal monitors which have been calibrated to signal an alarm at 4.7 ppm and 10 ppm levels of HCN gas. These monitoring devices are provided for personal for use in areas where there is a potential for HCN gas generation. In addition, ambient HCN gas levels are monitoring at 21 locations around the mill using the portable monitors on a 10 day schedule and carried out to meet the Russian Regulatory workplace 8 hour exposure threshold of less than 0.3 ppm HCN. Recorded HCN levels over the past three years have generally been below the Russian Regulatory threshold

Six areas with a high potential for HCN generation have been identified by CMGC and have been fitted with fixed Draeger Polytron 7000 HCN monitors. The monitors are calibrated to alarm at HCN levels of 4.7 ppm and at 10 ppm. The fixed monitors are dispatched annually for certified calibration. CMGC also conduct internal checks of fixed monitors using a 10 ppm HCN calibration gas and through comparison with personal monitor readings to identify any obvious errors.

Fixed monitors alarm above the 4.7 ppm threshold (but below 10 ppm) with a yellow flashing light and audible alarm on the control room panel. Operators are required to don respirators, and coordinate actions with the shift foreman including the identification of possible causes for the alarm. Entry and exit doors are opened to provide additional ventilation. The foreman and control room operator continuously monitor HCN concentrations. Technical staff may continue to work within the area provided that HCN concentrations remain below 10 ppm, that respirators are worn, and that the number of employees are limited to no more than two.

HCN concentrations above 10 ppm will result in a flashing red light and audible alarm on the stationary monitor and within the control room. This will trigger the mill Emergency Response Plan requiring immediate evacuation of all employees from the area to emergency exits. The control room operator discontinues sodium cyanide solution feed to the process and increases lime feed while continuously monitoring HCN levels. The Biological, Radiological and Chemical Defense Emergency Response Team (BRCD ERT) is mobilized to the area and upon arrival, confirm stationary monitor readings with a portable gas analyzer. The area is inspected to check for any remaining personnel, that flow of sodium cyanide solution ceases, lime is being added, ventilation systems are adequately operating, and that emergency exits are open to improve ventilation. Operators are only allowed back into the affected area upon confirmation that HCN levels are safe and if authorized to do so by the Mill Manager. Instructions to be followed in the event of an alarm are posted next to each monitor, describing the actions to be taken for each alarm situation.

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CMGC has identified tasks and areas where workers may be exposed to cyanide and implemented work instructions and operating procedures that require the use of appropriate PPE and monitoring equipment.

CMGC continue to operate a formal respiratory protection program covering the use of dust masks, respirators, use of dust/chemical filter canisters and self-contained breathing apparatus (SCBA) and which includes mandatory training for all employees. Prior to being issued with a respirator, employees must successfully complete field tests including face fit tests. Refresher training is required and provided annually.

Employees required to work with cyanide, are provided with full face gas respirators fitted with B2P3 canisters. The Mill Process Engineer is responsible for maintaining canister stocks and issuing canisters to employees. Canisters typically have a shelf life of 3-5 years, with expiry dates of canister stocks checked every 6 months by the Mill Process Engineer and expiry dates logged on JD Edwards maintenance tracking system. Canister usage time are documented by employees in a log book and are required to replace canisters after 6-8 hours of use in cyanide areas or earlier if employees deem this necessary.

During review of the cyanide mix procedure, a filter cartridge being used by a security guard during cyanide offloading into the mill was not recognized as standard type issued and a valid expiry date was absent. Additionally, the expiry dates of some filter cartridges had become faded and were not legible. Subsequent to the field component of the audit, CMGC reviewed and modified the procedure for issuing of filter cartridges, provided evidence of training in revised procedures, and implemented a method of permanently marking the expiry date of cartridges.

CMGC maintain four SCBA sets in the chemical spill emergency response equipment container located adjacent to the mill mix area entrance and which are used by the Biological, Radiological and Chemical Defense Emergency Response Team (BRCD ERT). Two SCBA units are also stored in a cabinet in the control room. Additional SCBA sets are retained by the Fire Brigade Emergency Response Team (FB ERT) with seven stored in the two onsite fire engines and the remaining three serving as backups. Inspections of all SCBA are carried out on a monthly basis by the FB ERT Fire Safety Engineer. The Mill Process Superintendent also completes independent checks of the equipment stored in the emergency response equipment containers.

During the cyanide mix a HCN personal monitor was exposed to water while the operator was completing his personal wash down procedure. The exposure to water may potentially affect future functioning of the equipment. Subsequent to the field audit, CMGC modified the mix procedure, updated instructions provided to the reagent mix operators and provided evidence of training/instruction to relevant personnel.

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Warning signage is prominently displayed at the mill entrance, the cyanide mix room, the cyanide mix and storage tanks, leach tanks, CCD tanks, the Acacia plant, Merrill Crowe units and the cyanide destruct chlorination plant. Signage has also been placed at the booster pump station, seepage collection ponds, at the entrance of the reclaim barge pump house.

High strength cyanide delivery lines in the mix room are routed throughout the leach plant and are color coded and clearly identified with labels which also indicate the direction of flow.

It was observed that the external cyanide storage compound did not have signage indicating the presence of cyanide. Subsequent to the field component of the audit, CMGC provided photographic evidence of signage having been prepared and placed at the entrance to the storage facility.

In terms of Russian Regulations, the tailings impoundment facility falls under the definition of a hazardous installation and signage indicating such are prominently displayed at entrances to the tailings impoundment as required under Russian legislation. No warning signage was observed on the tailings and reclaim pipelines. However since tailings are discharged to these pipelines following treatment in the cyanide destruct plant, and cyanide levels were recorded below 0.002 ppm for total cyanide and 0.5 ppm WAD cyanide for the audited three year period, the pipelines are not considered to contain detectable cyanide levels.

Smoking, eating and drinking are only permitted as designated areas at the mine site. No smoking signs were prominently displayed at the entrance to the mill. Subsequent to the field audit, CMGC also posted no eating or drinking signs at the entrance to the mill. Induction training and annual knowledge refresher training is also explicit on the hazards of smoking, eating and drinking in areas where cyanide is used and prohibits such activities.

Seven emergency showers and eye wash stations are located at key locations in the plant where there is potential for exposure to cyanide. In addition to the fixed emergency shower stations, a portable eyewash station is located adjacent to the entry door of the cyanide mix area in the reagent storage area with water changed at least every three months. Showers and eye wash stations are checked and tested during each shift on a daily basis.

Fire extinguishers within the mill area and other cyanide use areas are dry chemical ABC type extinguishers. Work instructions specifically prohibit the use of carbon dioxide extinguishers within the mill. Monthly inspections of fire extinguishers are completed by departments and the Fire Brigade Commander. Other firefighting measures include wheeled dry chemical fire extinguishers.

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Employees undergo induction and cyanide awareness training in which they are made aware of the potential hazards associated with chemical use and management and the location and use of MSDS. MSDS for reagents used in the mill including sodium cyanide are posted at key areas in the plant including the mill reagent storage area, cyanide mixing area, operational areas in the leach circuit and external cyanide storage compound.

First aid instructions, MSDS and other key safety instructions are in Russian, the language of operators in the plant.

CMGC incident reporting procedures follows the Russian Regulatory requirements as well as the Kinross corporate procedure. Under Russian Regulations, all incidents involving cyanide are considered safety incidents and are reportable. Russian Regulations require extensive and detailed reposting to the Russian Regulators and authorities for all but the most minor incidents. The completed investigation report is submitted to Russian authorities and an internal Kinross corporate incident report prepared for internal submission. No Cyanide related safety or environmental incidents are reported to have occurred at the plant since the 2013 recertification audit.

6.3 Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 6.3.

Describe the basis for this Finding/Deficiencies Identified:

Emergency showers and eye wash stations are located at strategic areas within the mill, and in areas where cyanide related tasks are undertaken and where there is potential for exposure to cyanide. Medical oxygen resuscitator kits are retained by the medical clinic and are refilled on a six monthly schedule. Cyanide antidote kits consisting of pentyl nitrite (amyl nitrite) are stored in eight first aid refrigerated boxes located within the mill with an additional kit retained by medical response personnel. The antidote kits are inspected and replaced every six months as directed by the manufacturer. Each fridge is sealed with a signed tag and only broken if necessary, such as in an emergency or in the presence of the management team. The fridges are also visually inspected during each shift to ensure that the seals remain intact, and if broken the contents of the fridges are inspected, replaced if necessary and resealed. During the field audit, it was noted that individual ampoules were stored in fridges but with no labelling indicating expiry dates or a

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method to track the ampoule back to a particular production batch. CMGC subsequently modified storage procedures to include a copy of the production passport with each ampoule.

Communication in the mill and mine are primarily by radios which are issued to management personnel, shift foremen and key personnel. Additionally, the Mill Control Room also monitors radio traffic. Fixed line phones are located at key locations in the mill and operators also carry cellular mobile phones. A public address system also provides additional forms of communication to operators. Certain key areas in the mill and the cyanide mix area are fitted with cameras and linked to the control room to provide remote monitoring. The cyanide mix room and reagent store also have alarms that can be triggered in the event of an emergency.

As required by Russian Regulations, CMGC has developed three emergency response plans for the following areas of operation:

- "Emergency Response Plan - Kupol Mill and Processing Plant, 2016" (ERP PP);
- "Emergency Response Plan - Reagent Storage Area" (ERP RS);
- "Emergency Response Plan - Hydro Technical Structures Areas of Kupol Mine Mill Tailings Facility, 2016" (ERP TF).

Each of the emergency response plans detail responses and procedures for various potential emergency response scenarios including cyanide related incidents such as worker exposure and spills at the mill, releases to the environment from the external storage compound and road transport to the mill reagent store. The ERPs also detail the manpower and resources required, procedures for response, incident control and management, communications, actions to take upon an emergency being triggered, actions for emergency containment and response, actions to ensure public safety and logistical and resource support. Procedures specifically relating to cyanide exposures are contained within the ERPs. The ERPs are reviewed and updated at least annually or after an emergency incident or mock drill review, and most recently in 2015. The plans are also submitted to the Russian Regulator for review. Within the mill, procedures for first aid response and rescue are also posted at key locations.

All employees that are involved with cyanide related tasks are trained to recognize the symptoms of cyanide exposure, emergency notification and first aid. Both the BRCED ERT and FB ERT receive theoretical training on the respective ERPs and also take part in periodic mock drills with cyanide related mock drills completed at least twice annually.

Due to the remoteness of the Kupol Mine, CMGC has capacity to respond to most medical emergencies at the site. CMGC continue to operate an onsite medical clinic located at the camp and which is manned 24 hours a day with a minimum of one

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doctor and a paramedic in attendance. All paramedics are required to be recertified every 5 years which involves refresher training and examination. For transportation, CMGC has a dedicated ambulance, fixed wing aircraft and helicopters, all of which are available 24 hours a day to evacuate patients to medical facilities or hospitals for further treatment if necessary. Paramedics also undergo cyanide awareness training which includes instruction of application of the cyanide antidote. All medical staff take part in mock drills and cyanide emergency scenarios which are conducted at least twice annually.

Russian Federal Law stipulates that all medical facilities in the country are to provide emergency first aid unconditionally. As such CMGC do not have formal agreements in place to provide medical services. However, in the event of a cyanide related casualty, Bilibino Hospital is the first option considered due to its closer proximity relative to other hospitals and also having a specialist toxicological unit. Although the hospital has not been used in this scenario before, CMGC are confident of their ability to treat cyanide related medical cases.

CMGC hold regular emergency response training comprising of both theoretical and practical sessions. Practical sessions cover the use of equipment and PPE and include mock drills; whereas theoretical training includes the principles of fighting cyanide fires and the appropriate actions to take. These are undertaken at a frequency of twice per week for the FB ERT and once every 10 days for the BRCD ERT.

Mock drills are conducted approximately monthly and are intended to test responses of workers and the ERT to correctly respond to an emergency. These steps include notification, evacuation and first aid and participants include the ERTs, security, dispatch, medical response and emergency coordinators. Six mock drills considering cyanide emergencies have been undertaken over the past three years and have included sodium cyanide spillage during transport from the external storage compound to the mill (three events), an employee falling into a tanks and being exposed to cyanide, uncontrolled emission of cyanide vapor in the mill and a release from a reagent pipeline. The drills are subject to evaluation by observers who provide feedback at debriefing sessions. Any deficiencies identified are recorded as requiring corrective actions which are assigned to a specific person or department with a due date.

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7. EMERGENCY RESPONSE Protect communities and the environment through the development of emergency response strategies and capabilities.

Standards of Practice

7.1 Prepare detailed emergency response plans for potential cyanide releases.

- The operation is:
- in full compliance
 - in substantial compliance
 - not in compliance...with Standard of Practice 7.1.

Describe the basis for the Finding/Deficiencies Identified:

As required under Russian Regulations, CMGC maintains ERPs for the mill and processing plant (ERP PP), reagent storage area (ERP RS) and the tailing facility (ERP TF). The ERPs include specific procedures and responses in the event of emergencies including cyanide emergency scenarios for each area. The ERPs also define roles and responsibilities, describes manpower and equipment resources required to respond to an emergency, and initial response actions. Emergency response actions are also described in induction and training materials for safe working practices.

The ERP PP addresses 15 potential emergency scenarios within the mill and which includes the following potential cyanide related incidents: fires at the mill and leaching area, fire in the cyanide mix area, sodium cyanide spillage, power shutdown and potential loss of process control, and hydrogen cyanide gas emission arising from decreased pH levels.

Through the operation of the cyanide destruct unit, very low concentrations are likely to enter the tailings facility. Nevertheless, the ERP TF considers potential emergency scenarios that may apply if cyanide levels at the tailings facility are elevated. These include partial dam collapse, local dam breach and spread of tailings, dam frontal destruction resulting in tails flow, tailings dam washings overflow, failure of the tailings or reclaim water pipelines along the apex of the dam wall, and overflow of the tailings sump reservoir at the toe of the tailings dam.

The ERP RS applies to the external cyanide storage compound and includes specific response procedures for the following potential emergency scenarios: vehicle roll over while on route, cyanide spill during transport, cyanide spill in the reagent storage area, and sodium cyanide poisoning.

Solid sodium cyanide briquettes arrive at the Port of Pevek and are pre-packed in wooden crates enclosed within steel intermodal containers to CMGC's specification. The containers are transported along a road to interim storage at the KM 21 storage facility. Thereafter, the containers are transported by convoy along a winter road to

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Kupol Mine between January and April each year. Upon arrival containers are stored in an external storage compound located approximately 3 km from the mine site. During the road journey and at the storage compounds, CMGC personnel from either the mine or the transportation company arm are responsible for responding to emergencies.

Emergency response equipment, including PPE and equipment to clean spills, is stored in containers located at the external reagent compound and the mill in two dedicated shipping containers. Additional equipment also includes a Terex container stacker and road equipment to transport ERT members and responders if required. The ERP RS contains specific response and cleanup procedures in the event of a spill and impact to soil, snow or surface waters.

The ERPs are required to be reviewed annually by CMGC and also submitted to the Russian Regulator RTN for review. In addition, following any drill or emergency, the response is to be evaluated and any necessary changes incorporated in to the ERPs.

7.2 Involve site personnel and stakeholders in the planning process.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.2.

Describe the basis for the Finding/Deficiencies Identified:

Since the transport, storage and use of cyanide is strictly controlled in Russia, the ERPs have been developed and structured to meet the requirements of the Russian Regulator RTN. The Kupol Mine is located in a remote location and there are no communities in close proximity to the mine that would be considered likely to be affected in the event of an emergency. As such, communities are not included in the emergency response planning process. Nevertheless, while communities are not directly involved in the emergency response planning process, the ERPs are reviewed annually and submitted to RTN for regulatory review and approval.

The development and continued updates to the ERPs are prepared with inputs from managers and specialists. The medical staff and the voluntary fire brigade also provide input regarding the type of equipment or medical supplies required for emergencies.

Cyanide transported from the Port of Pevek to the Kupol Mine is undertaken by CMGC Transportation Group who is ICMC certified. Vehicles used along the route require annual permits which also specify the permitted transport route. Input from

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communities along the route, regulators and other stakeholders are considered during the annual route permitting phase.

The mining operation is in a very remote location and there are no communities located in the immediate site vicinity, the closest being approximately 75 km from site operations. The ERPs require that in the event of an emergency, government agencies and regulators in Bilbino would be notified who in turn would notify communities if necessary.

Due to the remoteness of the mine, CMGC has been required to be self-sufficient in dealing with emergency situations. The mine operates a medical clinic staffed with doctors and paramedics, trained Biological, Radioactive and Chemical Defense ERT, and trained voluntary fire brigade who can respond to all emergencies. CMGC has fixed wing aircraft and helicopters available on standby for transfer of patients to nearby regional hospitals if required.

7.3 Designate appropriate personnel and commit necessary equipment and resources for emergency response.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.3.

Describe the basis for the Finding/Deficiencies Identified:

The ERPs provides a list of designated responsibilities and names of personnel required to respond to an emergency. A current list of BRCD ERT and FB ERT members is retained by the commanders of both emergency response teams. Additionally, an up to date list of emergency response personnel including members of both ERTs are retained by security control room who would be the first point of call in an emergency and is posted outside the Fire Brigade office and in the camp near the canteen. Contact information for key agencies and authorities, who are required to be notified in the event of emergencies, are also listed in the ERPs.

All three ERPs describe the specific duties and responsibilities of emergency responders including the designated emergency response coordinators. Responsibilities of key personnel are also detailed under specific response procedures as set out in the ERPs.

Emergency response equipment is listed in each of the ERP PP and ERP RS. Equipment including PPE and equipment to manage cyanide spills are stored in containers located at the external cyanide storage compound and external to the cyanide mix building. Equipment inventories are also retained in the containers. Fire safety and response equipment is stored in the two fire trucks and the fire engine parking bay. Subsequent to the audit, CMGC implemented a checklist procedure to

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ensure that the required PPE was stored and in place. Medical oxygen supplies are retained by paramedics and antidote kits are stored in first aid fridges located throughout the facility. Emergency response equipment continues to be inspected on set schedules. Equipment is also inventoried and checked after each drill and emergency. First aid fridges which contain cyanide antidotes are sealed and are inspected in the event that a seal is broken. Seals are inspected every shift.

Training for emergency responders is carried out in accordance with Russian Regulations and certification is required. Mock drills are conducted on an approximate monthly basis and training sessions are regularly completed for the FB ERT and the BRCD ERT. Debriefings are carried out after each mock drill and are attended by members of the ERTs as well as participants in the drills. Debriefing sessions are documented in mock drill reports inclusive of any corrective actions completed. All workers are required to complete refresher training on an annual basis and the ERT members are required to complete emergency response training every 3 years.

CMGC operates in a remote area and is largely self-sufficient with capability to respond to most emergencies and does not use outside responders. Due to proximity, CMGC has identified the hospital at Bilibino as the preferred medical facility in the event of medical emergency requiring outside intervention. CMGC may make use of other regional hospitals as required and are confident that regional hospitals have the expertise and resources to provide the necessary care for cyanide exposure cases.

7.4 Develop procedures for internal and external emergency notification and reporting.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.4.

Describe the basis for the Finding/Deficiencies Identified:

ERPs that have been developed for each area which contain contact lists for CMGC personnel including responders and medical staff who must be contacted in the event of an emergency. The contact lists are specific to the type of emergency event and personnel to be contacted may vary. Contact information is also made available for regulatory bodies, emergency services and external hospitals. The clinic medical staff also maintains contact information for external medical specialists to provide advice and support as required. In the event of an emergency, the observer notifies his immediate supervisor or the security office. Security then initiates the emergency response process and contacts the emergency response teams and managers listed

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in the ERPs as appropriate for the particular emergency scenario. The Mine Manager also contacts the General Manager who is responsible for contacting regulatory agencies who in turn would contact local communities.

7.5 Incorporate into response plans monitoring elements and remediation measures that account for the additional hazards of using cyanide treatment chemicals.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.5.

Describe the basis for the Finding/Deficiencies Identified:

Remediation procedures remain essentially unchanged since the 2013 recertification audit. The ERP PP and ERP RS refer to specific remediation procedures in the event of a spill and include steps for dealing with dry and liquid cyanide spillages, decontamination, remediation, disposal and monitoring requirements. Procedures for the use of cyanide neutralization chemicals including prohibition of chemical use in surface waters are included in the ERPs.

Procedures require the use of both slaked lime and calcium hypochlorite as neutralization agents. The use of calcium hypochlorite has been included in procedures to meet Russian Regulatory requirements; however is prohibited from use if there is any potential for impact to surface waters.

All employees working at the mill or the external cyanide storage compound are required to provide written confirmation of knowledge of procedures including spill response and cleanup measures.

Procedures prescribe sampling frequencies following a spill, soil and water sampling methodologies, and QA/QC requirements including analyses by an independent laboratory. Surface water and groundwater sampling frequencies and locations vary depending on the extent of the spill and the transport of any plume, including an enhanced monitoring program if required.

7.6 Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.6.

Describe the basis for the Finding/Deficiencies Identified:

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The ERPs are reviewed annually and, as required under Russian legislation, are submitted to the regulator for review and approval. Any revisions or changes to the ERP implemented in the intervening period between submissions are included in the annual version provided for submission. Training on revisions are recorded and tracked in a log book and through directives. Mock drills are conducted on approximately a monthly basis comprising both theory and practical modules. Six mock drills relating to specific cyanide scenarios have been completed over the past three years and have simulated both environmental spills and worker cyanide exposures.

The drills are subject to evaluation by observers who provide feedback at debriefing sessions. Any deficiencies identified are recorded as requiring corrective actions which are assigned to a specific person or department with a completion due date noted. Upon completion, the actions are signed off on the mock drill report. Corrective actions, the assigned person or department responsible and close out dates are recorded on the mock drill review documents. Where necessary, the ERPs are also updated. To date no cyanide related emergencies have occurred

8. TRAINING Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

Standards of Practice

8.1 Train workers to understand the hazards associated with cyanide use.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 8.1.

Describe the basis for the Finding/Deficiencies Identified:

CMGC provide induction training to all new employees which comprises a three day program covering safety training, mandatory company rules, first aid training, emergency response procedures, fire response, use of PPE and hazard awareness training. Non-qualified personnel entering the mine must complete RTN training programs which include 178 hours of theory and practical training. Training programs are provided by the training specialist with input also from the mill trainer. Following training, employees must pass an examination and thereafter work under supervision for a minimum of 15 days. Induction training, which also includes a minimum of 8 hours of training, is provided on hazard identification, risk assessment and mitigation including cyanide hazards. Employees who operate in the mill and who work with cyanide are required to complete RTN approved specific training on

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sodium cyanide transport, storage and handling. Topics include properties of cyanide, hazards, ventilation, shipping, receipt and storage, mill operations that involve cyanide use, fire safety, emergency response and environmental safety which is split into 30 hours of theory and 8 hours of practical training.

Trainees are required to pass an oral exam and sign acknowledgement of understanding. Workers who do not specially work with cyanide, but who may enter an area where cyanide may be used, are provided with hazard recognition training which includes recognition of cyanide warning signs, hazards of cyanide and precautions when working near cyanide. Safety meetings which are held weekly also periodically include topics related to cyanide with safety topics provided for discussion amongst workers.

All employees entering the mill receive familiarization training on the ERP PP and receive annual refresher training on the ERP PP. Employees that are absent from the mine operations for longer than 30 days must again undergo induction. Under Russian Regulations, all employees must attend and pass an annual knowledge assessment exam.

Both the BRCD ERT and FB ERT undergo theoretical training on emergencies and take part in periodic mock drills. Both theoretical and practical training includes refresher training on cyanide hazard recognition.

Training records are detailed and retained by both the safety department and the mill. RTN require that training records are retained for each employee which detail training programs completed, including cyanide related elements. Training records detail the contents of the course, subjects covered, hours allocated to each subject, names of attendees and trainers, signatures of trainers and completion certificates.

8.2 Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 8.2.

Describe the basis for the Finding/Deficiencies Identified:

Training remains the same as noted in the 2013 recertification audit. Training requirements and programs are specified by the Russian Regulator RTN who also approves any training programs set by CMGC. CMGC has also been licensed by RTN to conduct in house training. Where training is required and CMGC has no licensed trainer available, a trainer approved by the regulator must be used.

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CMGC continue to provide training to all plant operators and training programs for all mill operations, including cyanide related tasks and related health and safety procedures. The training program specifies the number of hours required for theoretical and practical training. Practical training is provided after an employee has completed the theoretical component which includes oversight and supervision by an experienced employee for a specific number of hours and shifts depending on the nature of the task. Knowledge assessment examinations which are undertaken annually are performed by a Qualification Commission Board. The board is comprised of senior managers who are certified by RTN. Training records are retained and updated for the duration of a workers employment at the mine. Documenting of training is a requirement of RTN.

Work place assessments are undertaken in the form of planned task observations (PTOs). The PTOs are undertaken by shift leaders at a frequency of approximately once per month, during which workers are assessed for conformance with work or task instructions. The PTOs are documented and include the signatures of the observer, worker and manager. In addition workers are also subject to daily inspections and observations by the shift leader and superintendents who conduct at least one daily workplace inspection.

Mock drills are regularly conducted to test responses to emergencies including cyanide related emergencies. The results of mock drills are formally recorded and debriefing sessions attended by all participants.

8.3 Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 8.3.

Describe the basis for the Finding/Deficiencies Identified:

New employees entering the site are required to attend a three day training program which includes safety induction training and emergency response procedures. Training also includes the use of PPE, first aid, hazard awareness training and fire response. Workers who may encounter cyanide are also required to complete 30 hours of specific cyanide awareness training which addresses cyanide hazards, the use of HCN monitors and alarms, cyanide symptoms, application of first aid and emergency response procedures. Employees are also required to complete task specific training for their areas of work before being allowed to work unsupervised. Training is provided on the work instructions contained in the Operator Training Manual and includes procedures for emergency shutdown of equipment, emergency

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response, evacuation and spill response. Annual knowledge assessments are undertaken to confirm worker understanding. Any process change is documented in an Order of Regulation which requires that workers are notified of such a change, complete necessary training and confirm their understanding.

Both the BRCD and FB ERTs are trained and certified in basic firefighting, emergency response, first aid and SCBA use. The ERTs take part in emergency response training comprising both theoretical and practical training. Additionally, mock drills are conducted approximately monthly and are intended to test responses of workers and the ERT to correctly respond to an emergency. These steps include notification, evacuation and first aid and participants include the ERTs, security, dispatch, medical response and emergency coordinators. CMGC has provided records from 2013 through to 2016 confirming the completion of six mock drills that involved emergencies related to by cyanide environmental release and exposure scenarios. The drills are subject to evaluation by observers who provide feedback at debriefing sessions. Any deficiencies identified are recorded as requiring corrective actions which are assigned to a specific person or department with a due date. Upon completion, the actions are signed off on the mock drill report.

Records of training are detailed and maintained as a requirement by the Russian Regulator RTN. The records include the trainer, trainee, date of training, topics covered and the pass grade of the trainee. Certificates obtained by the trainers and ERT members are also retained on file.

The Kupol Mine is located in a remote area and CMGC and has built capacity to be largely self-sufficient and is able to respond to most mine emergencies. As such off site emergency responders are limited to those hospitals that may provide medical support for cases that cannot be treated onsite. For medical emergencies, the mine has a clinic manned 24 hours a day by paramedics and doctors, a dedicated ambulance and aircraft (both helicopters and fixed wing) available for medical evacuation to the nearest capable hospital in Bilibino or to other medical facilities if required. Due to the remoteness of the Kupol Mine, there are no nearby communities in close proximity. Nevertheless, in the event of cyanide emergency, CMGC would notify the emergency services and regulatory authorities located in Bilibino.

CMGC maintain emergency fire crews, two of which are dedicated for oversight of airport and above ground operations. The third is allocated to below ground operations. The above ground ERTs are trained for firefighting and are equipped with firefighting equipment, PPE, SCBA and fire trucks.

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9. DIALOGUE Engage in public consultation and disclosure.

Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 9.1.

Describe the basis for the Finding/Deficiencies Identified:

Since the 2013 recertification audit, CMGC has continued to be actively engaged in community outreach programs. While the mine operations are located in an isolated and remote location, dialogue is regularly held with the nearest communities located within the Chukotka AO region. CMGC continue to maintain community engagement in accordance with the precedent set during the environmental and social impact assessment undertaken during the initial authorization stages of the project. Since 2009, CMGC activities have also extended to the establishment of the Kupol Foundation to provide support funding for a variety of community based projects.

The meetings are conducted in an open, consultative format which provides opportunities for questions, answers and discussions, including cyanide related topics or concerns. Meetings are held at least once annually and are focused towards the five key communities of Pevek, Bilibino, Ilirney, Lamutskoye and Chuvanskoye. Public consultation meetings are typically attended by local residents, community leaders, and in certain areas by municipal officials, regulators, indigenous people's associations and the media. Meeting proceedings are recorded as minutes and any actions requiring follow up are actioned by CMGC. Since 2013, CMGC has received no cyanide related complaints.

Since 2013, CMGC has introduced a community environmental monitoring initiative, whereby small groups of up to 10 community representatives complete a three day environmental monitoring training program at the mine and have completed two such training events in 2014 and 2015. The program includes theoretical training on Russian legislation, Kinross standards and policies, waste treatment, water treatment, fauna impacts, and monitoring practices and procedures. Field trips of the mine are also undertaken which include the mill and tailings facility. Cyanide management and monitoring elements are included during the monitoring program and participants have the opportunity to raise any questions or concerns relating to cyanide.

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Stakeholders can inform CMGC of grievances or concerns through several channels including at public meetings, in writing to CMGC offices, through feedback fields on the Kinross Russian language webpage, and a dedicated email address.

9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 9.2.

Describe the basis for the Finding/Deficiencies Identified:

CMGC has continued to maintain a strong community outreach program, conducting regular public meetings and has initiated an environmental monitoring training program at the Kupol Mine. Public meeting materials such as presentations and brochures include descriptions of the production activities, environmental monitoring, health and safety, mine rescue and cyanide management. CMGC has developed a Russian language cyanide specific brochure for the public titled "What is Cyanide and Methods of its Safe Use".

Where requested and in accordance with corporate policy, CMGC will respond to requests for information, including cyanide related topics and depending on the nature of the request. Since 2013, CMGC has reported receiving no specific requests relating to cyanide. CMGC has continued to maintain a Kinross Russian language webpage which contains up to date information about mining operations including cyanide management and CMGC's ICMC commitments. The webpage also has input fields where information can be requested in addition to an email address for enquiries.

9.3 Make appropriate operational and environmental information regarding cyanide available to stakeholders.

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 9.3.

Describe the basis for the Finding/Deficiencies Identified:

CMGC has developed presentation materials for communities including brochures that describe the effects of cyanide on health and the environment and its management at the mine site. The presentation materials, both electronic and written, are freely distributed at public meetings and upon request. A Russian language webpage provides information specific to the Kupol Mine operations

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including cyanide use and also makes reference to CMGC's ICMC commitments. Furthermore, the Kinross corporate website contains an annual Corporate Sustainability Report, the most recent being 2015, which includes corporate commitments to cyanide management. The CSR reports are published every two years.

Literacy within the Chukotka AO communities remains high and is not considered a significant issue. Nevertheless, public meetings present materials verbally and in a visual presentation format. Some public meetings are also televised and used as a communication tool. Regulators and government agencies will on occasion request that public meetings are televised with other branches of the media also invited.

Since 2013, there have been no reported cyanide releases on or off the mine that have resulted in adverse effects to health or the environment. In the event of an incident occurring, the Mine General Manager will inform the General Director or his deputy, both located in Magadan, who would in turn take the lead in informing regulators and government authorities in Bilibino. The regulators and authorities will then in turn inform communities of the incident, making use of the media. Any releases from the operation boundary remain reportable to the Kinross Corporate Vice President, EHS based in the US. Reportable spill data is also required to be recorded as a monthly key performance indicator, which is made publically available in the CSR report available on the corporate webpage.

Discussions with Kinross management and the CSR Manager in Kinross's regional offices in Magadan confirm that no offsite releases have occurred in the life of the mine.

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